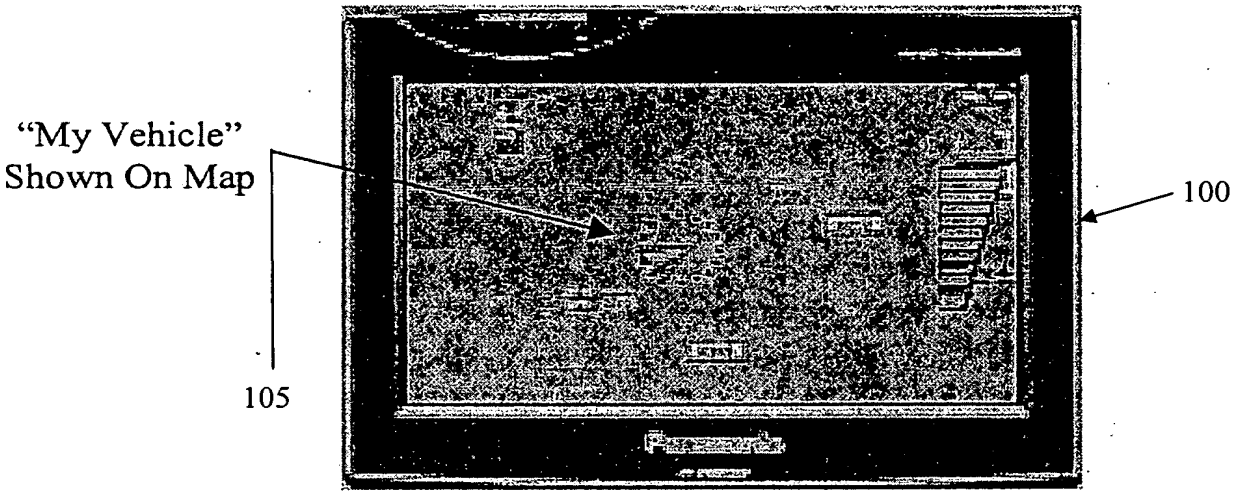


Fig. 1

BEST COPY

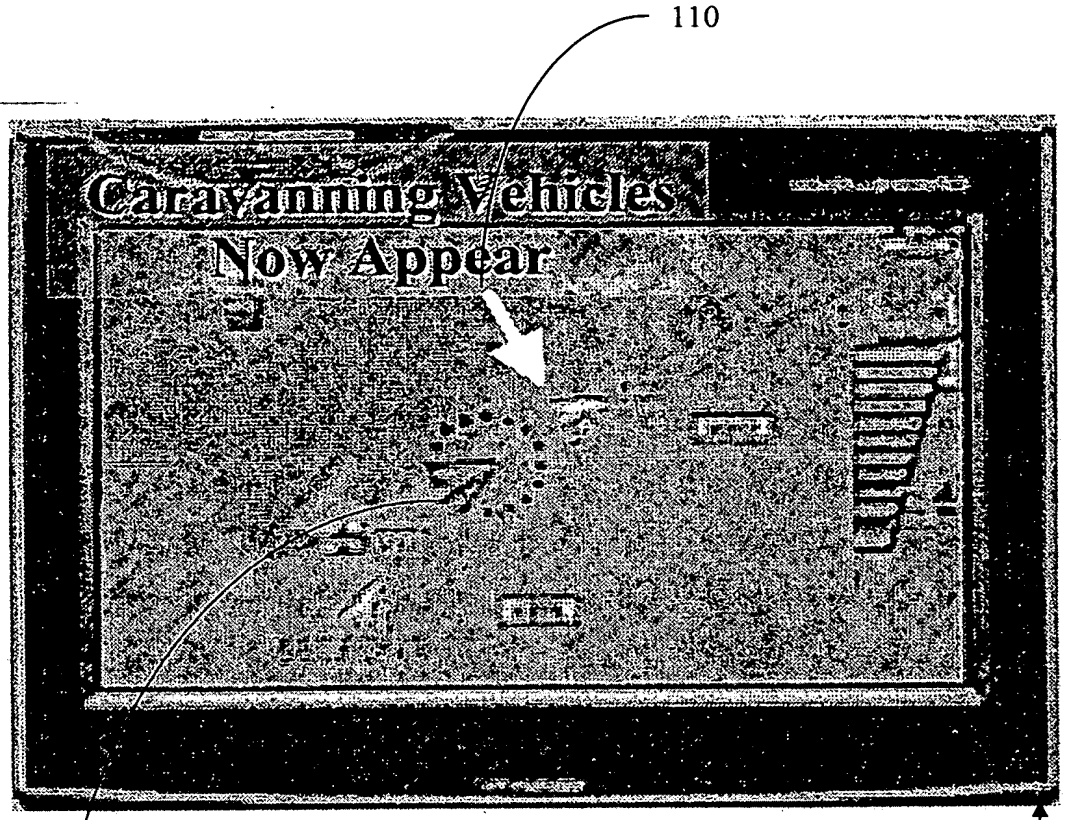


Fig. 2

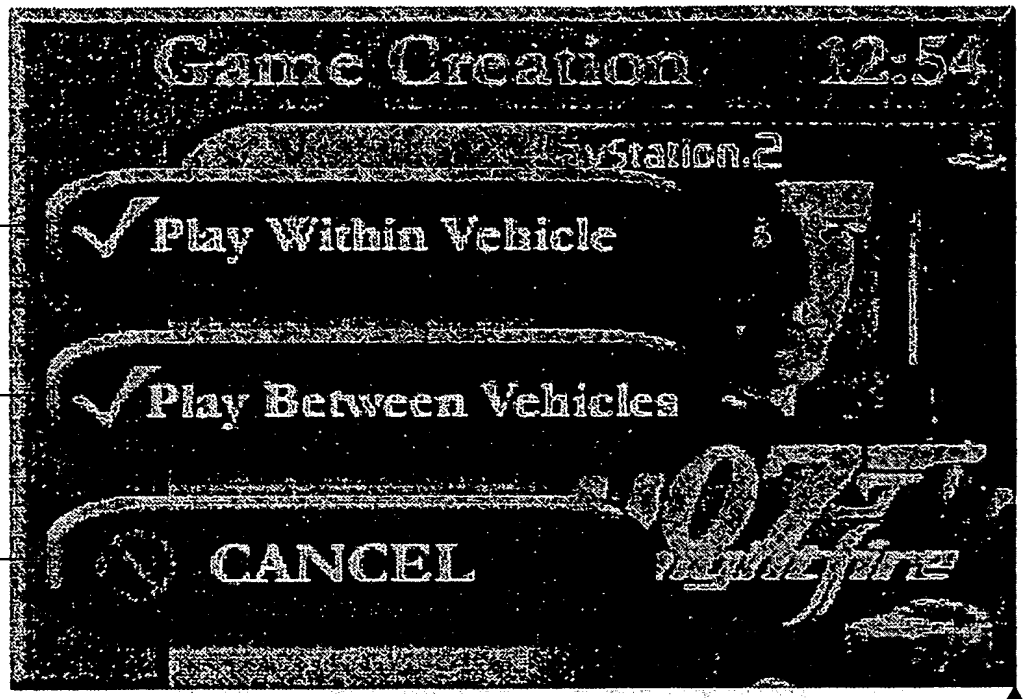

Game Creation
12:54
Play Within Vehicle
Play Between Vehicles
CANCEL
150
155
160
100

Fig. 3

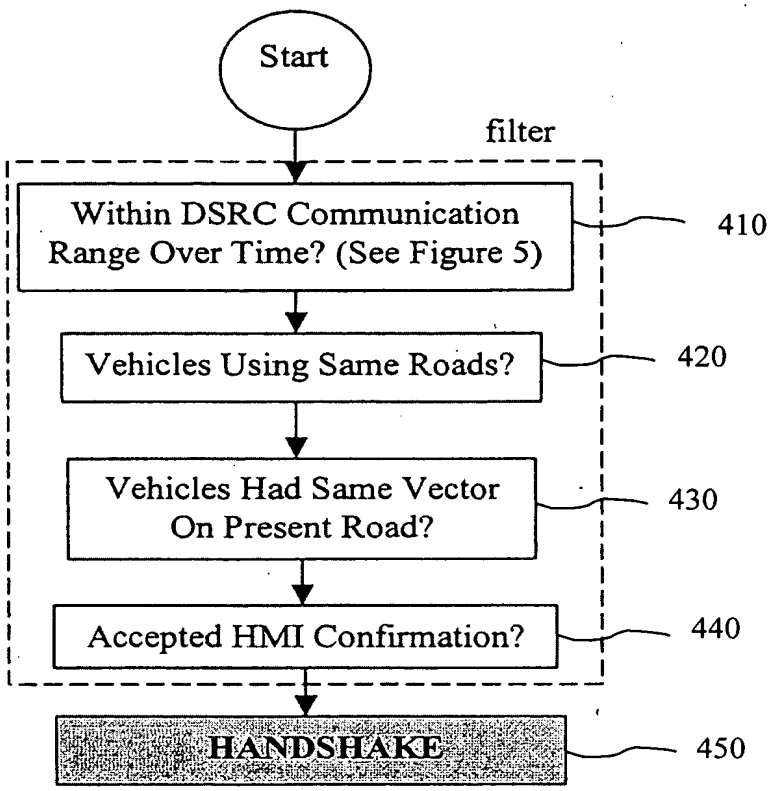

Start
filter
Within DSRC Communication Range Over Time? (See Figure 5)
410
Vehicles Using Same Roads?
420
Vehicles Had Same Vector On Present Road?
430
Accepted HMI Confirmation?
440
HANDSHAKE
450

Fig. 4

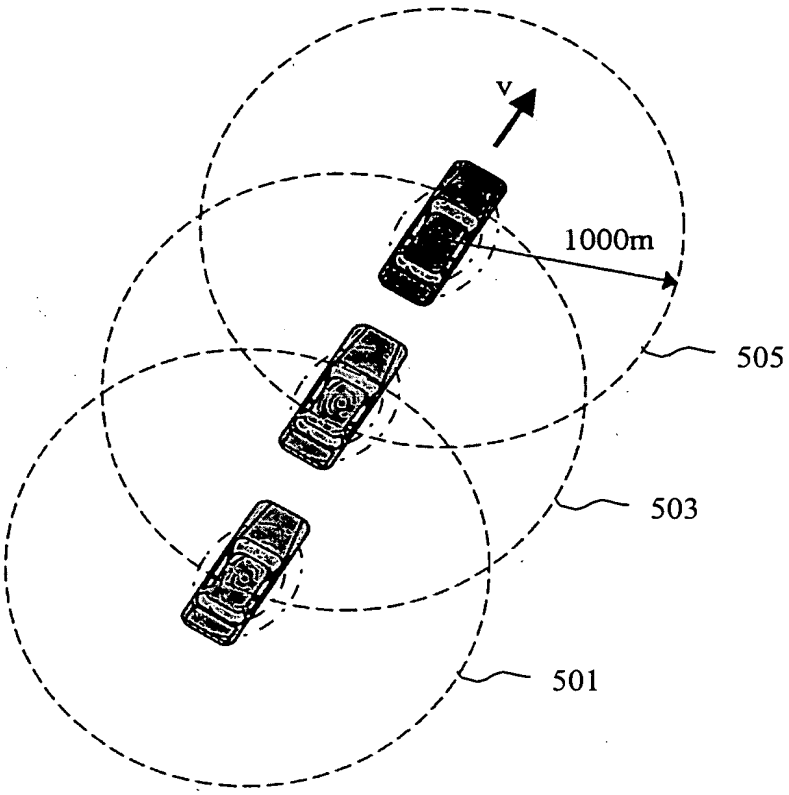
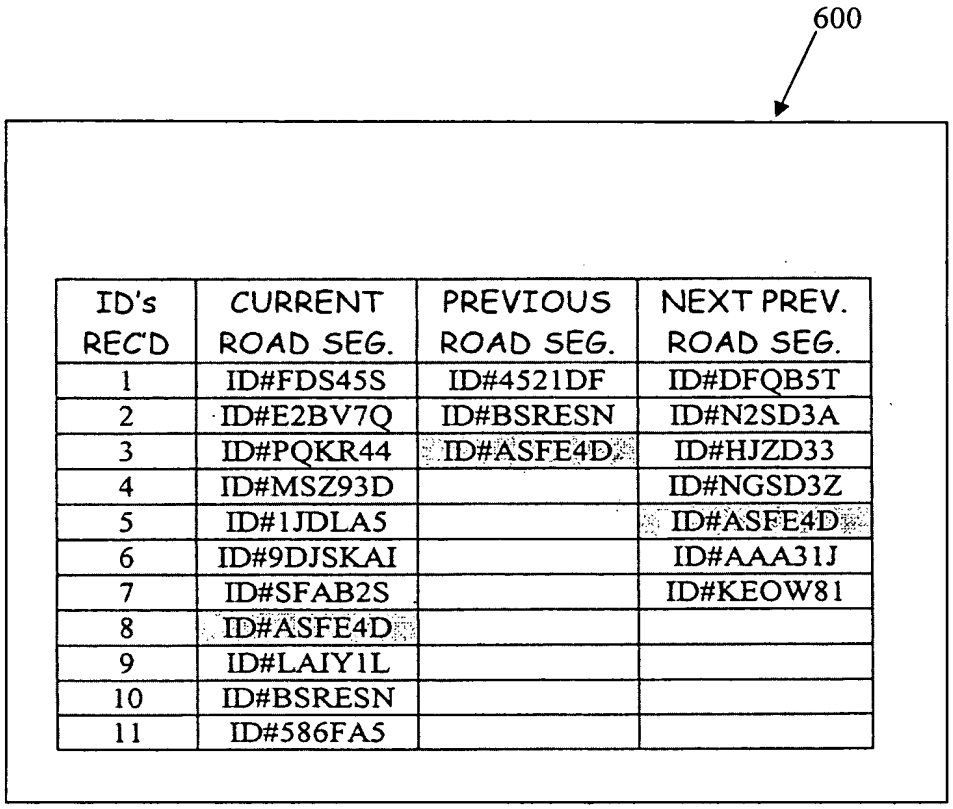


Fig. 5



ID's REC'D	CURRENT ROAD SEG.	PREVIOUS ROAD SEG.	NEXT PREV. ROAD SEG.
1	ID#FDS45S	ID#4521DF	ID#DFQB5T
2	ID#E2BV7Q	ID#BSRESN	ID#N2SD3A
3	ID#PQKR44	ID#ASFE4D	ID#HJZD33
4	ID#MSZ93D		ID#NGSD3Z
5	ID#1JDLA5		ID#ASFE4D
6	ID#9DJSKAI		ID#AAA31J
7	ID#SFAB2S		ID#KEOW81
8	ID#ASFE4D		
9	ID#LAIY1L		
10	ID#BSRESN		
11	ID#586FA5		

Fig. 6

COPY

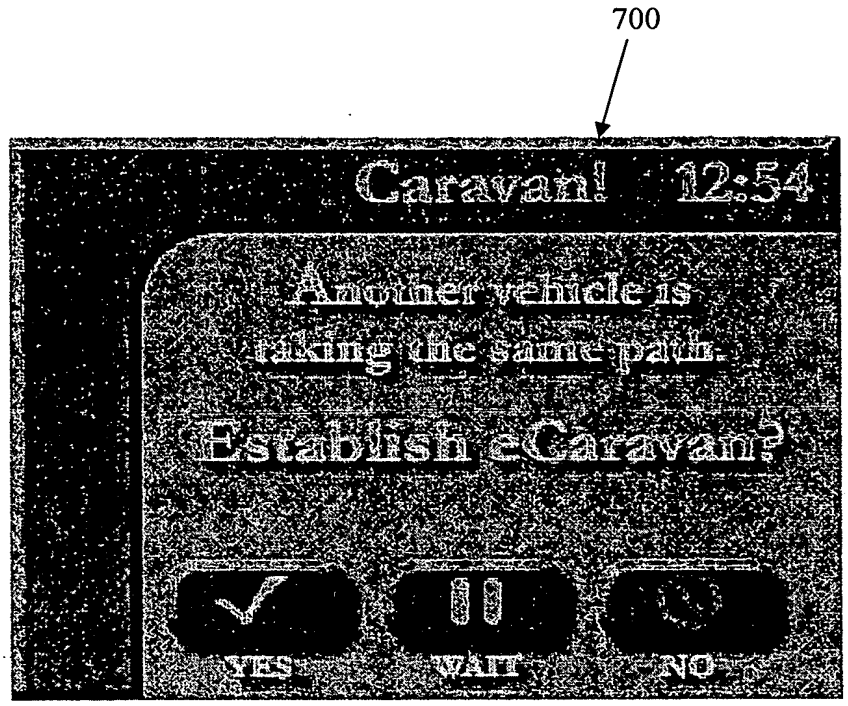

700
Caravan!
12:54
Another vehicle is
taking the same path.
Establish eCaravan?
YES
WAIT
NO

Fig. 7

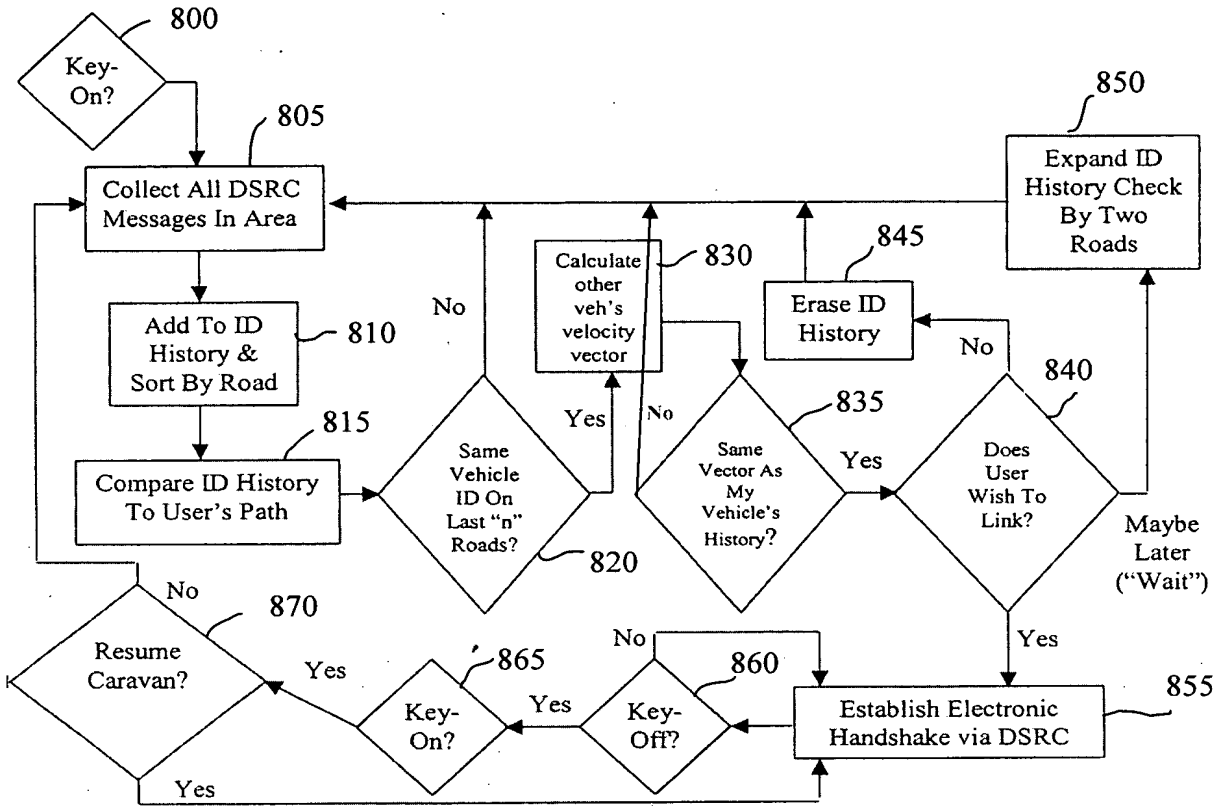

800
Key-On?
805
Collect All DSRC Messages In Area
Add To ID History & Sort By Road
810
Compare ID History To User's Path
815
Same Vehicle ID On Last "n" Roads?
820
No
Yes
Calculate other veh's velocity vector
830
Same Vector As My Vehicle's History?
835
No
Yes
Erase ID History
845
Does User Wish To Link?
840
No
Yes
Maybe Later ("Wait")
850
Expand ID History Check By Two Roads
Establish Electronic Handshake via DSRC
855
Key-Off?
860
No
Yes
Key-On?
865
Yes
Resume Caravan?
870
No
Yes

Fig. 8

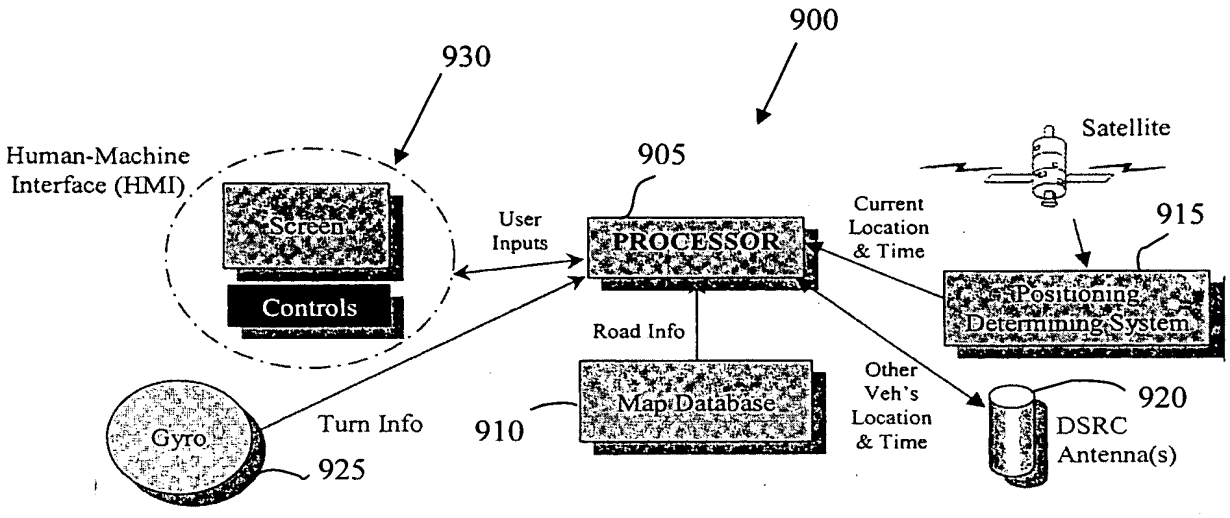

900
930
Human-Machine
Interface (HMI)
Screen
Controls
User
Inputs
905
PROCESSOR
Satellite
915
Current
Location
& Time
Positioning
Determining System
Road Info
Map Database
910
Other
Veh's
Location
& Time
920
DSRC
Antenna(s)
Gyro
Turn Info
925

Fig. 9

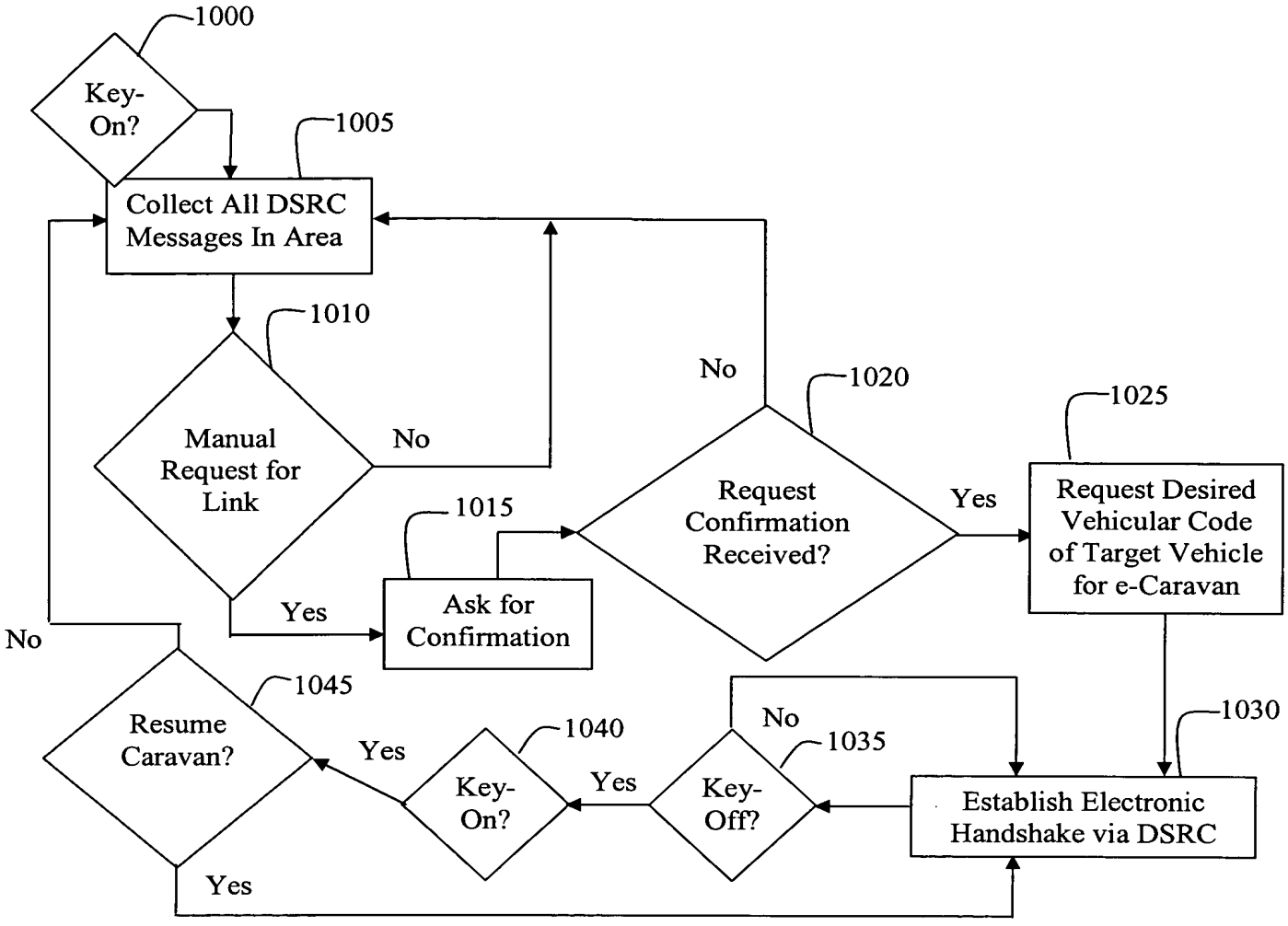

1000
Key-On?
1005
Collect All DSRC Messages In Area
1010
Manual Request for Link
No
Yes
1015
Ask for Confirmation
No
1020
Request Confirmation Received?
Yes
1025
Request Desired Vehicular Code of Target Vehicle for e-Caravan
1030
Establish Electronic Handshake via DSRC
No
1035
Key-Off?
Yes
1040
Key-On?
Yes
1045
Resume Caravan?
No
Yes

Figure 10

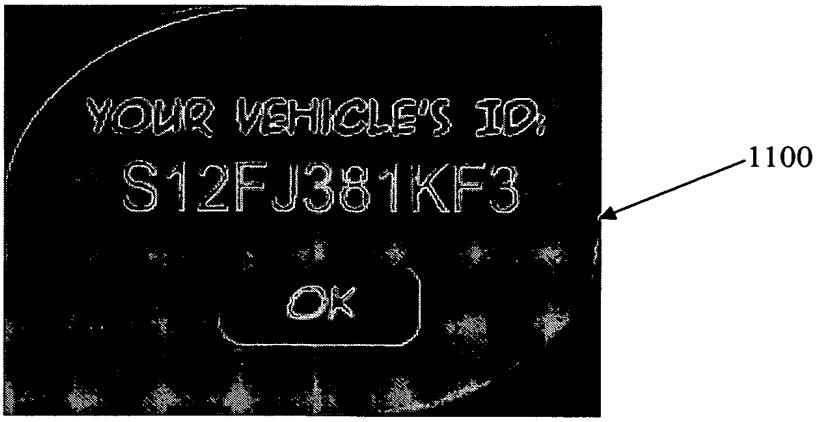


Figure 11

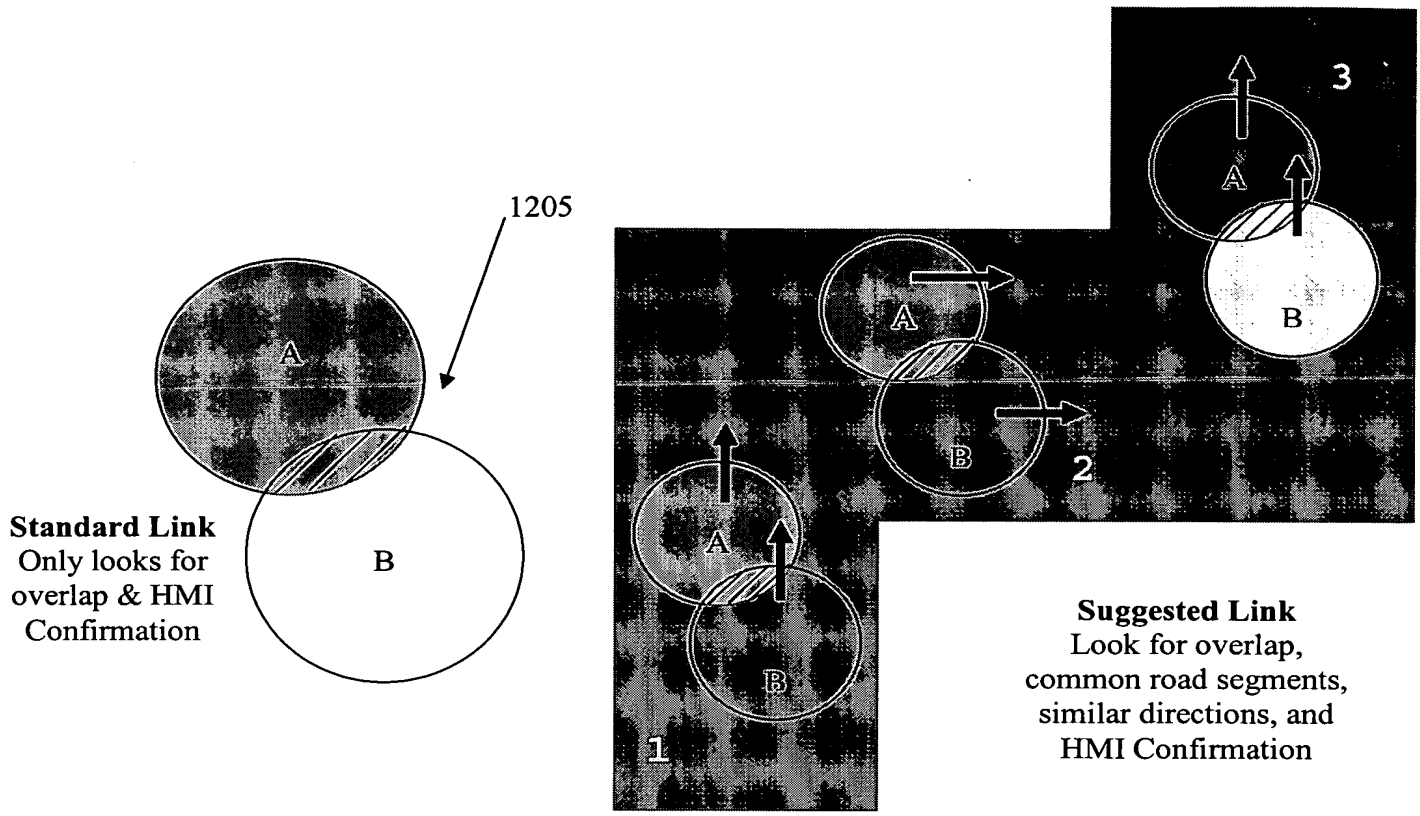

1205
A
B
Standard Link
Only looks for overlap & HMI Confirmation
3
A
B
2
1
Suggested Link
Look for overlap, common road segments, similar directions, and HMI Confirmation

Figure 12

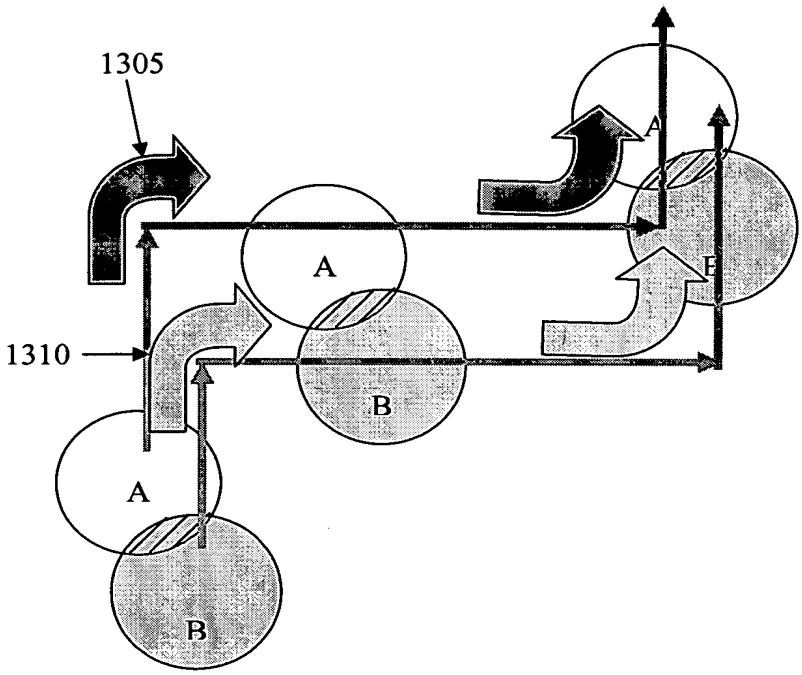


Figure 13